

We Claim:

1. In a curable composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound which absorbs light at wavelengths of less than about 300 nm in said composition, said light attenuating compound comprising:

carbon atoms C_1 and C_2 double-bonded to one another and carbon atoms

C_3 and C_4 double-bonded to one another and wherein C_3 is

bonded to C_2 so as to form conjugated double bonds;

an EWG bonded to carbon atom C_1 ; and

an EDG bonded to carbon atom C_4 , said EDG including a moiety

selected from the group consisting of H_3CO , OH , and R_1-O- ,

wherein R_1 is non-aromatic and is selected from the group

consisting of hydrogen, acyclic and cyclic alkyls, and

heteroalkyls.

2. The composition of claim 1, wherein said light attenuating compound is bonded to the polymer binder.

3. The composition of claim 1, wherein the polymer binder comprises a backbone, and said light attenuating compound is bonded to said backbone.

4. The composition of claim 1, wherein said light attenuating compound is bonded to a linkage unit and said linkage unit is bonded to the polymer binder.

5. The composition of claim 4, wherein said linkage unit comprises a moiety selected from the group consisting of cyclic alkyls, acyclic alkyls, acyclic heteroalkyls, and cyclic heteroalkyls.

6. The composition of claim 1, wherein said light attenuating compound includes a moiety selected from the group consisting of COOH, OH, CONH₂, CONHR', CH₂X, and mixtures thereof, wherein R' is selected from the group consisting of hydrogen, alkyls, and heteroalkyls, and wherein X is a halogen.

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7. The composition of claim 1, wherein after curing, said composition has an etch rate of at least about 4000 Å/minute when utilizing an etchant gas comprising a mixture of HBr and O₂.

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8. The composition of claim 1, wherein the EWG includes a moiety selected from the group consisting of carbonyl, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

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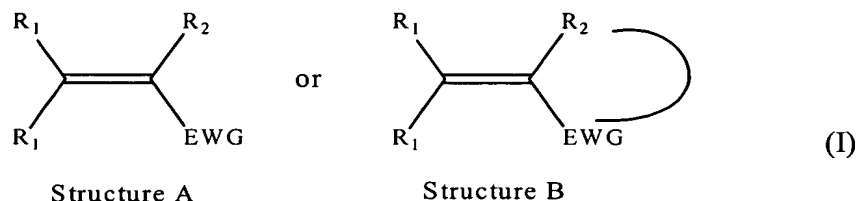
9. The composition of claim 1, further including a second EWG, said second EWG being bonded to C₄.

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10. The composition of claim 9, wherein the second EWG includes a moiety selected from the group consisting of carbonyl, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

11. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



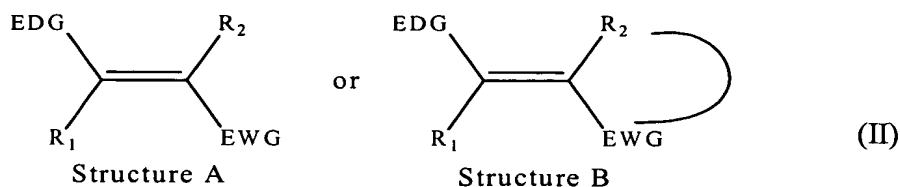
where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;
and

R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



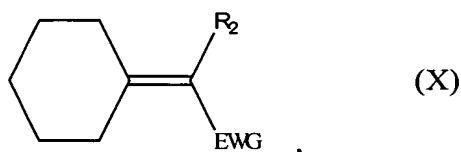
where:

- R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group;
- in structure A, where EWG and R_2 do not form a cyclic unit:

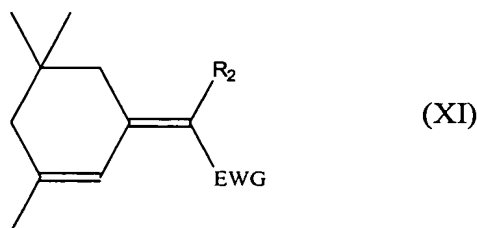
EWG is a non-aromatic electron-withdrawing group;
and

R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



where: R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group;
and EWG is a non-aromatic electron-withdrawing group; and



where: R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and EWG is a non-aromatic electron-withdrawing group;

- 5 (b) olefinic moieties of (I), (II), and mixtures thereof; and
 (c) mixtures of (a) and (b),

wherein at least one of R_1 and R_2 of said light attenuating compound is bonded to the polymer binder.

10 12. The composition of claim 11, wherein the EWG of said light attenuating compound is bonded to the polymer binder.

15 13. The composition of claim 11, wherein the polymer binder comprises a backbone, and said light attenuating compound is bonded to said backbone.

 14. The composition of claim 13, wherein the EWG of said light attenuating compound is bonded to said backbone.

20 15. The composition of claim 11, wherein said light attenuating compound is bonded to a linkage unit and said linkage unit is bonded to the polymer binder.

25 16. The composition of claim 15, wherein said linkage unit comprises a moiety selected from the group consisting of cyclic alkyls, acyclic alkyls, acyclic heteroalkyls, and cyclic heteroalkyls.

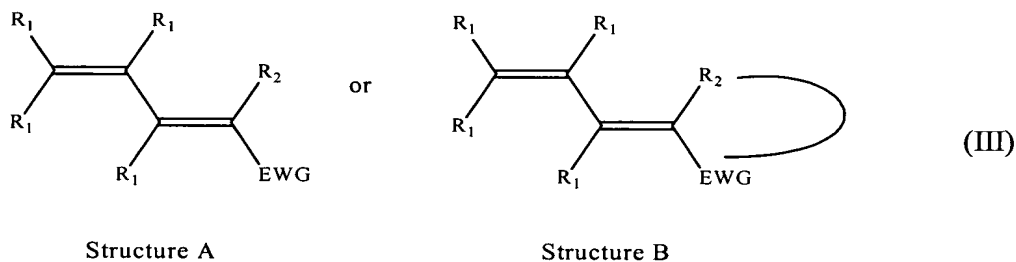
 17. The composition of claim 11, wherein the EWG of said light attenuating compound is selected from the group consisting of carbonyl, cyano, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

18. The composition of claim 11, wherein each of R_1 and R_2 of said light attenuating compound is individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls.

19. The composition of claim 11, wherein said light attenuating compound comprises a moiety selected from the group consisting of COOH , OH , CONH_2 , CONHR' , CH_2X , and mixtures thereof, wherein each R' is individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls, and wherein X is a halogen.

20. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



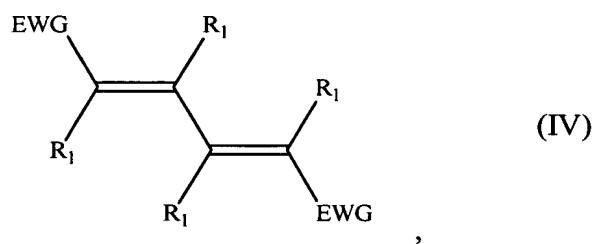
where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;
and

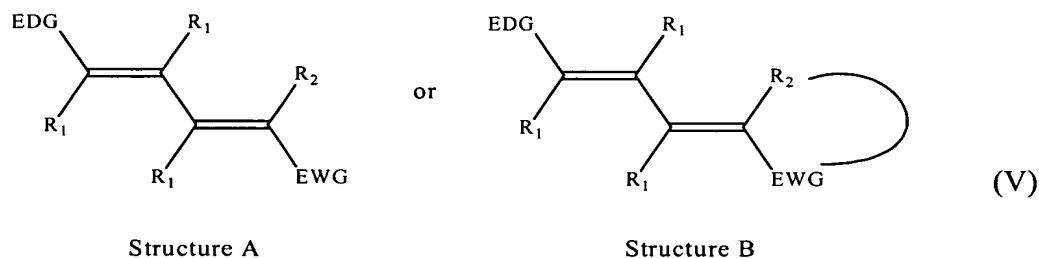
R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group;

- in structure B, where EWG and R₂ form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



where:

- each R₁ is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; and
- EWG is a non-aromatic electron-withdrawing group;



Structure A

Structure B

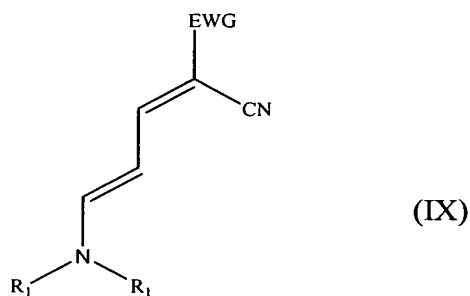
where:

- each R₁ is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group;
- in structure A, where EWG and R₂ do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group

other than cyano groups, and R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; or EWG is a cyano group, and R_2 is non-aromatic and is hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



where EWG is a non-aromatic electron-withdrawing group;

- (b) diolefinic moieties of (III), (IV), (V), and mixtures thereof; and
- (c) mixtures of (a) and (b),

wherein at least one of R_1 and R_2 of said light attenuating compound is bonded to the polymer binder.

21. The composition of claim 20, wherein the polymer binder comprises a backbone, and said light attenuating compound is bonded to said backbone.

22. The composition of claim 20, wherein said light attenuating compound is bonded to a linkage unit and said linkage unit is bonded to the polymer binder.

23. The composition of claim 22, wherein said linkage unit comprises a moiety selected from the group consisting of cyclic alkyls, acyclic alkyls, acyclic heteroalkyls, and cyclic heteroalkyls.

24. The composition of claim 20, wherein the EWG of said light attenuating compound is selected from the group consisting of carbonyl, cyano, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

25. The composition of claim 20, wherein each of R_1 and R_2 of said light attenuating compound is individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls.

26. The composition of claim 25, wherein each of R_1 and R_2 of said light attenuating compound is individually selected from the group consisting of cyclic alkyls and acyclic alkyls.

27. The composition of claim 20, wherein said light attenuating compound comprises a moiety selected from the group consisting of COOH , OH , CONH_2 , CONHR' , CH_2X , and mixtures thereof, wherein R' is individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls, and wherein X is a halogen.

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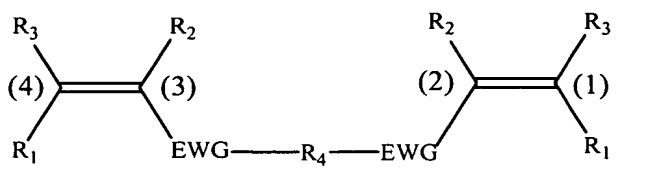
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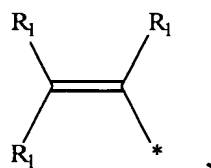
- in structure B, where EWG and R₂ form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;

(b)



where:

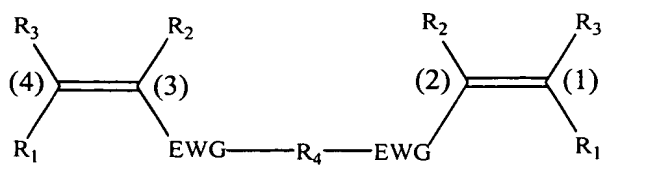
- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- each R_3 is individually R_1 or



where each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl, and where the (*) represents the double-bonded carbon atom (1) or (4);

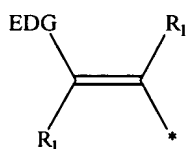
- each EWG is a non-aromatic electron-withdrawing group;
- each R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group;
- R_4 is a divalent, non-aromatic-containing bridging group; and
- (1)-(4) refer to the respective double-bonded carbon atoms;

(c)



where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- each R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group;
- each R_3 is individually an EDG, or



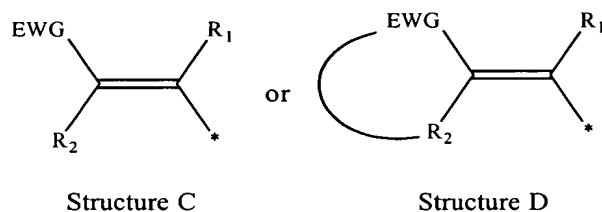
where each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; EDG is an electron-donating; and where the (*) represents the double-bonded carbon atom (1) or (4);

- R_4 is a divalent, non-aromatic-containing bridging group;
- each EWG is a non-aromatic electron-withdrawing group; and
- (1) - (4) refer to the respective double-bonded carbon atoms;

Structure A

Structure B

- each R₁ is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- where each R₃ is individually an EWG,



- in structure A where R_3 is an EWG or structure C:
 - each EWG is a non-aromatic electron-withdrawing group other than cyano groups, and each R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; or
 - EWG is a cyano group, and each R_2 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- in structure B and in structure A where R_3 is structure D, the cyclic unit comprises a $C=O$, $C=S$, or a $C=N$ at a first carbon atom, and: a $C=O$ or a $C=N$ attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from

the first carbon atom; and

- each EDG is an electron-donating group;
- R_4 is a divalent, non-aromatic-containing bridging group; and
- (1) - (4) refer to the respective double-bonded carbon atoms.

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29. The composition of claim 28, wherein each EWG comprises a group individually selected from the group consisting of carbonyl, cyano, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

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30. The composition of claim 28, wherein each R_1 and R_2 comprises a group individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls.

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31. The composition of claim 30, wherein each R_1 and R_2 comprises a group individually selected from the group consisting of non-aromatic cyclic alkyls and acyclic alkyls.

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32. The composition of claim 30, wherein each R_1 and R_2 comprises a group individually selected from the group consisting of conjugated alkyls and conjugated heteroalkyls.

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33. The composition of claim 28, wherein each EDG comprises a group individually selected from the group consisting of H_3CO , OH , and R_1-O- , wherein R_1 is non-aromatic and is selected from the group consisting of hydrogen, acyclic and cyclic alkyls, and heteroalkyls.

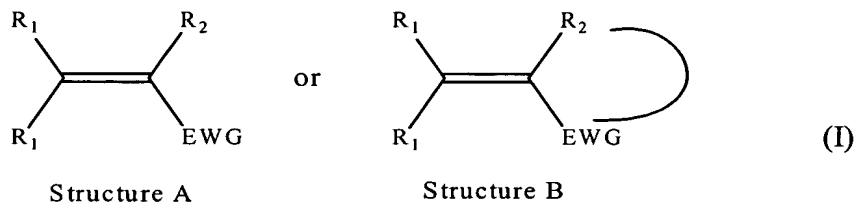
34. In a curable composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound which absorbs light at wavelengths of less than about 300 nm in said composition, said light attenuating compound comprising:

carbon atoms C_1 and C_2 double-bonded to one another and carbon atoms C_3 and C_4 double-bonded to one another and wherein C_3 is bonded to C_2 so as to form conjugated double bonds;
an EWG bonded to carbon atom C_1 ;
an EDG bonded to carbon atom C_4 ; and
a second EWG bonded to carbon atom C_4 .

35. The composition of claim 34, wherein the second EWG includes a moiety selected from the group consisting of carbonyl, carboxyl, carboxamido, sulfonyl, and non-aromatic heterocyclic groups.

36. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



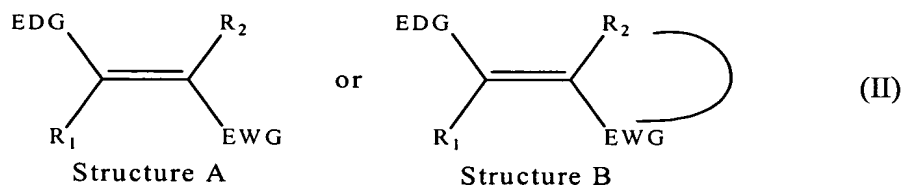
where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;
and

R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



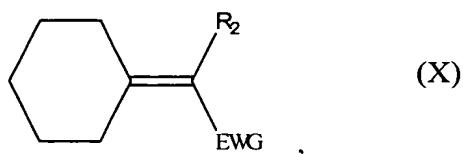
where:

- R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group;
- in structure A, where EWG and R_2 do not form a cyclic unit:

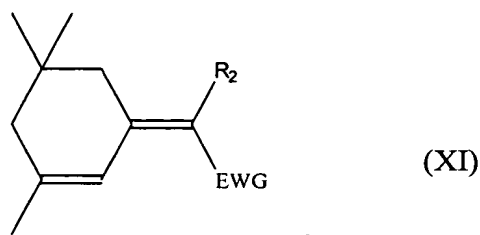
EWG is a non-aromatic electron-withdrawing group;
and

R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



where: R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and EWG is a non-aromatic electron-withdrawing group; and



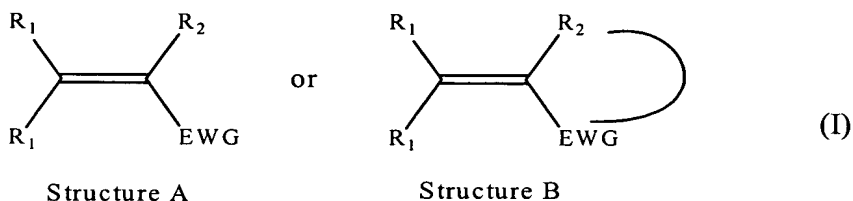
where: R_2 is non-aromatic and is individually hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and EWG is a non-aromatic electron-withdrawing group;

- (b) olefinic moieties of (I), (II), and mixtures thereof; and
(c) mixtures of (a) and (b),

wherein said polymer binder comprises a backbone, and at least one of R_1 and R_2 of said light attenuating compound is bonded to the polymer binder backbone.

37. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



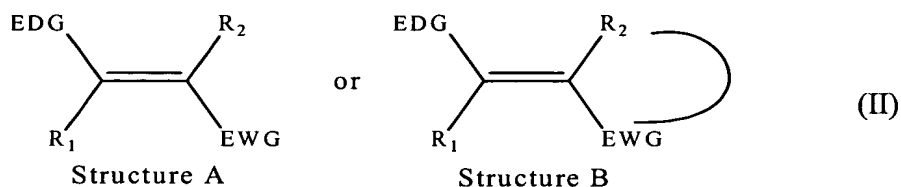
where:

- each R_1 is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;
and

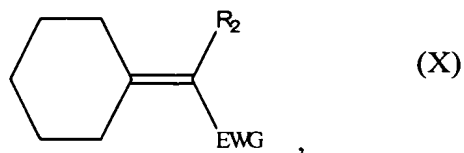
R_2 is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls; and

- in structure B, where EWG and R₂ form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;

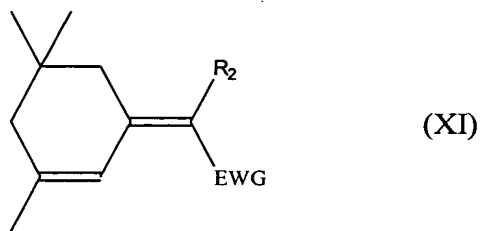


where:

- R₁ is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls;
- EDG is an electron-donating group;
- in structure A, where EWG and R₂ do not form a cyclic unit:
 EWG is a non-aromatic electron-withdrawing group;
 and
 R₂ is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls; and
- in structure B, where EWG and R₂ form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



where: R_2 is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls; and EWG is a non-aromatic electron-withdrawing group; and

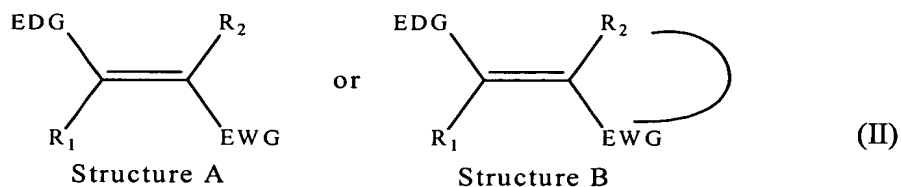


where: R_2 is non-aromatic and is individually selected from the group consisting of cyclic alkyls and acyclic alkyls; and EWG is a non-aromatic electron-withdrawing group;

- (b) olefinic moieties of (I), (II), and mixtures thereof; and
- (c) mixtures of (a) and (b).

38. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



where:

- R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group and comprises a group selected from the group consisting of H_3CO , OH , R_1-O- , and R_xR_yN groups, wherein each of R_x and R_y being non-aromatic and individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;

and

R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; and
- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a $C=O$, $C=S$, or a $C=N$ at a first carbon atom, and: a $C=O$ or a $C=N$ attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least

two positions away from the first carbon atom;

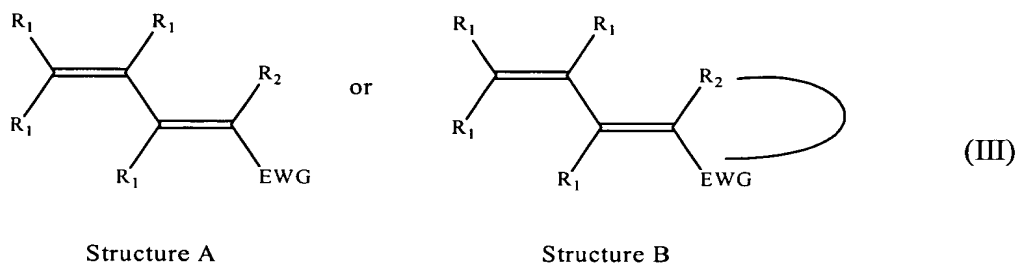
- (b) olefinic moieties of (II); and
- (c) mixtures of (a) and (b).

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39. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

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(a)



15

where:

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- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group;
and

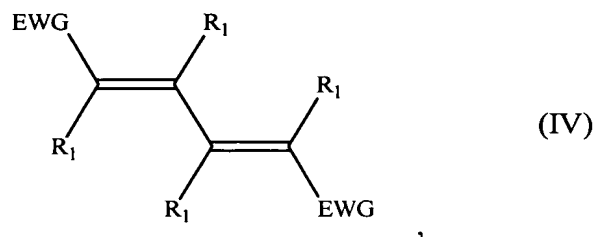
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R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group;

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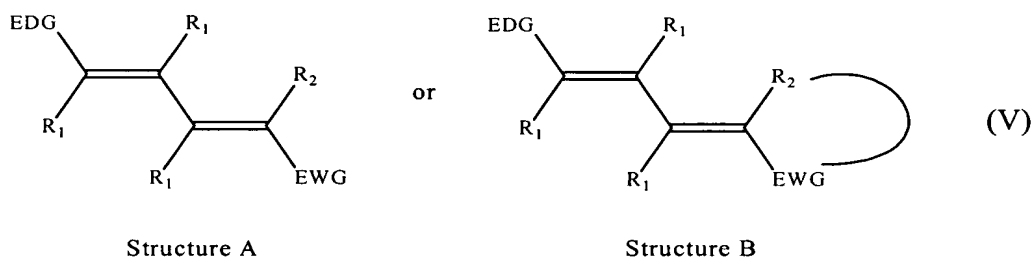
- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first

carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



10 where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; and
- EWG is a non-aromatic electron-withdrawing group;



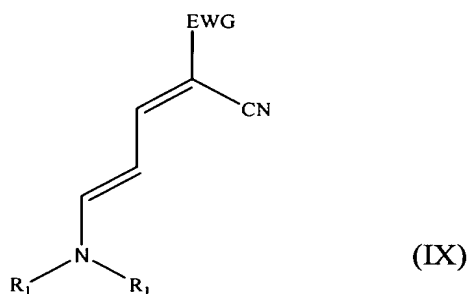
20 where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group other than cyano groups, and R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; or

EWG is a cyano group, and R_2 is non-aromatic and is hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a C=O, C=S, or a C=N at a first carbon atom, and: a C=O or a C=N attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least two positions away from the first carbon atom;



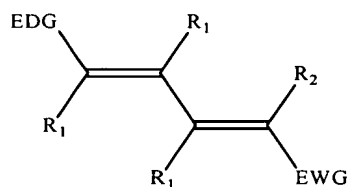
where EWG is a non-aromatic electron-withdrawing group;

- (b) diolefinic moieties of (III), (IV), (V), and mixtures thereof; and
- (c) mixtures of (a) and (b),

wherein said polymer binder comprises a backbone, and at least one of R_1 and R_2 of said light attenuating compound is bonded to the polymer binder backbone.

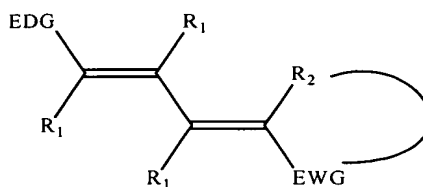
40. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety selected from the group consisting of:

(a)



Structure A

or



Structure B

(V)

where:

- each R_1 is non-aromatic and is individually hydrogen, or an acyclic or cyclic alkyl or heteroalkyl;
- EDG is an electron-donating group and comprises a group selected from the group consisting of H_3CO , OH , R_1-O- , and R_xR_yN groups and each of R_x and R_y ;
- in structure A, where EWG and R_2 do not form a cyclic unit:

EWG is a non-aromatic electron-withdrawing group other than cyano groups, and R_2 is non-aromatic and is hydrogen, an acyclic or cyclic alkyl or heteroalkyl, or an electron-withdrawing group; or

EWG is a cyano group, and R_2 is non-aromatic and is hydrogen, or an acyclic or cyclic alkyl or heteroalkyl; and

- in structure B, where EWG and R_2 form a cyclic electron-withdrawing unit, the cyclic unit comprises a $C=O$, $C=S$, or a $C=N$ at a first carbon atom, and: a $C=O$ or a $C=N$ attached to a carbon atom at least two carbon atoms away from the first carbon atom; or an O, S, or N as a member of the ring at least

two positions away from the first carbon atom;

- (b) diolefinic moieties of (V); and
- (c) mixtures of (a) and (b),

5 is non-aromatic and individually selected from the group consisting of hydrogen, alkyls, and heteroalkyls.

10 41. In a composition for use during microlithographic processes, said composition comprising a polymer binder dissolved in a solvent system, the improvement which comprises a non-aromatic, light attenuating compound comprising a moiety of



20 where EWG is a non-aromatic electron-withdrawing group, and EWG is bonded to the polymer binder.

25 42. The composition of claim 41, wherein said EWG is bonded to a linkage unit and said linkage unit is bonded to the polymer binder.

43. A cured fill layer used during microlithographic processes, said layer being formed by curing a composition including:

a polymer binder dissolved in a solvent system;

a non-aromatic, light attenuating compound which absorbs light at wavelengths of less than about 300 nm and comprises a diolefin including:

carbon atoms C_1 and C_2 double-bonded to one another and an EWG bonded to carbon atom C_1 ; and

carbon atoms C_3 and C_4 double-bonded to one another, wherein C_3 is bonded to C_2 so as to form conjugated double bonds; and

a glycouril-formaldehyde cross-linking agent.

44. The combination of:

a substrate for use in microlithographic processes; and

a cured layer adjacent said substrate, said layer being formed by curing a composition including:

a polymer binder dissolved in a solvent system;

a non-aromatic, light attenuating compound which absorbs light at wavelengths of less than about 300 nm and comprises a diolefin including:

carbon atoms C_1 and C_2 double-bonded to one another and an EWG bonded to carbon atom C_1 ; and

carbon atoms C_3 and C_4 double-bonded to one another, wherein C_3 is bonded to C_2 so as to form conjugated double bonds; and

a glycouril-formaldehyde cross-linking agent.